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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,391	07/07/2004	Gopal B. Avinash	153643XZ (GEMS0250PUS)	4390
61604	7590	04/15/2008	EXAMINER	
PETER VOGEL GE HEALTHCARE 3000 N. GRANDVIEW BLVD., SN-477 WAUKESHA, WI 53188			BLOOM, NATHAN J	
			ART UNIT	PAPER NUMBER
			2624	
			MAIL DATE	DELIVERY MODE
			04/15/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/710,391	Applicant(s) AVINASH ET AL.	
	Examiner NATHAN BLOOM	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 and 26-31 is/are rejected.
- 7) ☒ Claim(s) 22-25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicants' response to the last Office Action, filed on January 14th, 2008 has been entered and made of record.

Drawings

1. The drawings were received on 01/14/2008. These drawings are acceptable.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-21 and 26-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Avinash (US 6208763).

Examiner maintains the rejection of claims 1-21 and 26-31 as stated in the prior office action.

Please see the response to arguments below.

Response to Arguments

4. Applicant's arguments filed 01/14/2008 have been fully considered but they are not persuasive.

Applicant argues:

“In the Avinash reference, the word “counts” or “X-ray counts” are used for counting some derived data bins, not acquired data. In other words, “counts” or “X-ray counts” are not directly acquisition based. The Avinash reference does not describe an acquisition based count adaptive process.”

Claim 1 requires that “raw data” is received and that a count is generated "in response to said raw data". Avinash teaches the capturing of raw image data (any image data that is not processed into its final form is "raw"), the calculation (counts based mask), and enhancement of this data as per the sections of Avinash referred to in the rejection.

Applicants argues that Avinash did not teach the use of X-ray data, but in column 3 lines 55-65 Avinash taught that the method and system was applicable for not only the MRI imaging modality, but also for X-ray, CT, and other imaging modalities.

Applicant argues in paragraph 3 of page 13 that Avinash doesn't teach a mask based on counts. However, Avinash taught in column 9 lines 44 to column 10 line 34 the creation of a binary mask that is set and adjusted based on counts and directional indices (gradient orientation).

Applicant argues in paragraph 1 of page 14 that raw image data is not used. This has been discussed above.

Applicant argues in paragraph 2 of page 14 that “Applicant is unsure of the Examiner’s use of the phrase” Examiner would like to point to columns 10 through 12 wherein counts that

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are used to determine weighting, and the structure which was determined using gradients and connectivity requirements (see column 7) are used to filter the image.

Allowable Subject Matter

5. Claims 22-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 22-25 contain further limitations such as “a group of count modulation curves”, “low/medium/high noise reduction curves”, “Gaussian distribution”, and other limitations further defining the count modulation curves. These limitations were not taught in the known prior art.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Avinash et. al., US 7020343 - related patent by Avinash.
- Avinash et. al., US 6757442 - related patent by Avinash.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Bloom whose telephone number is 571-272-9321. The examiner can normally be reached on Monday through Friday from 8:30 am to 5:00 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed, can be reached on 571-272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NB

/Samir A. Ahmed/
Supervisory Patent Examiner, Art Unit 2624